CORRECTED VERSION

(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 19 May 2005 (19.05.2005)

PCT

(10) International Publication Number WO 2005/044338 A1

(51) International Patent Classification7:

A61M 1/12

(21) International Application Number:

PCT/AU2004/001487

- (22) International Filing Date: 28 October 2004 (28.10.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2003906212

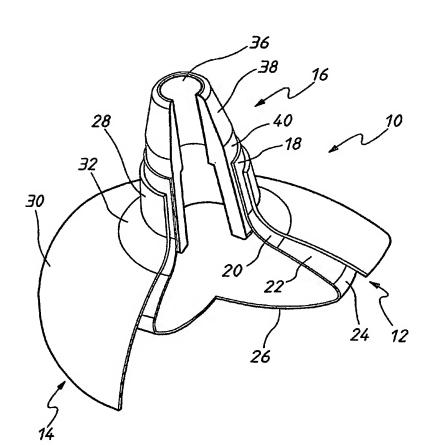
11 November 2003 (11.11.2003) AU

(71) Applicant (for all designated States except US): SUN-SHINE HEART COMPANY PTY LTD [AU/AU]; 2A River Street, Birchgrove, NSW 2041 (AU).

- (72) Inventor; and
- (75) Inventor/Applicant (for US only): MILLER, Scott, Hugh [US/AU]; 35/10 Darley Road, Manly, NSW 2095 (AU).
- (74) Agent: SPRUSON & FERGUSON; GPO BOX 3898, Sydney, NSW 2001 (AU).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: ACTUATOR FOR A HEART ASSIST DEVICE



(57) Abstract: An actuator (10) for a heart assist device. The actuator (10) includes an inflatable balloon (12) and a shroud or wrap (14). The inflatable balloon (12) has a first body portion (22), a second body portion (26) and a flexure region joining (24) the first (22) and second (26) body portions. The shroud or wrap (14) is positioned adjacent the first body portion (24) and has a peripheral extent at least equal to the peripheral extent of the balloon flexure region (24). The balloon (12) and the shroud or wrap (14) are shaped such that the shroud or wrap (14) restrains a part of the balloon first body portion (22) at or near the flexure region (24) against displacement towards the shroud or wrap (outward displacement) past a predetermined limit but allows unrestrained displacement away from the shroud or wrap (inward displacement).

WO 2005/044338 A1



(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report

- (48) Date of publication of this corrected version: 28 July 2005
- (15) Information about Correction: see PCT Gazette No. 30/2005 of 28 July 2005, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.